

Patent claims

1. (currently amended) A method for cooling thermally stressed regions in a turbo machine, comprising:

flowing a flow medium through the turbo machine and exiting the flow medium in an exhaust-steam region during operation of the turbo machine;

flowing a portion of the flow medium from a live-steam feed line to a heat exchanger;

cooling the flow medium by the heat exchanger before the flow medium enters the turbo machine;

flowing the cooled flow medium into the turbo machine via an inflow region; and

cooling the thermally stressed regions that are located in the inflow region by the flow medium that has been cooled by the heat exchanger.

2. (currently amended) The method as claimed in claim 1, wherein the heat exchanger is located in the exhaust-steam region of the turbo machine.

3. (currently amended) The method as claimed in claim 2, wherein the portion of the flow medium that enters the heat exchanger is removed downstream of a shut-off valve located in the live-steam feed line.

4. (currently amended) The method as claimed in claim 3, wherein the temperature of the portion of the flow medium cooled in the heat exchanger is at least 10°C below the temperature of the live steam.

5. (currently amended) The method as claimed in claim 3, wherein the temperature of the portion of the flow medium cooled in the heat exchanger is at least 20°C below the temperature of the live steam.

6. (currently amended) The method as claimed in claim 1, wherein the portion of the flow medium cooled by the heat exchanger is passed to a thrust-compensating piston.

7. (currently amended) A turbo machine, comprising:
a live-steam feed line through which a flow medium flows and leading to a live-steam inflow region, the live-steam feed line having a branch with which part of the flow medium is passed via a line to a heat exchanger;

an exhaust-steam region; and

a feed line arranged downstream of the heat exchanger leading into an inflow region of the turbo machine.

8. (currently amended) The turbo machine as claimed in claim 7, wherein the heat exchanger is arranged in the exhaust-steam region of the turbo machine.

9. (currently amended) The turbo machine as claimed in claim 7, wherein the live-steam feed line has a shut-off valve located upstream of the branch.

10. (currently amended) The turbo machine as claimed in claim 7, wherein the feed line supplies flow to a thrust-compensating piston.

11. (new) A turbo machine having selectively cooled internal components, comprising:

a live-feed flow line that flows a medium through a turbo machine and exits into an exhaust region;

a branch line to extend from the live-feed line adapted to pass a portion of the flow medium to a heat exchanger; and

a feed line arranged downstream of the heat exchanger leading into an inflow region of the turbo machine.

12. (new) The turbo machine as claimed in claim 11, wherein the heat exchanger is located in the exhaust-steam region of the turbo machine.

13. (new) The turbo machine as claimed in claim 11, wherein the live-steam feed line has a shut-off valve located upstream of the branch.

14. (new) The turbo machine as claimed in claim 11, wherein the feed line downstream of the heat exchanger supplies flow to a thrust-compensating piston.